diaphragm to return to the normal level. Chronic coprostasis is a frequent cause of elevation of the diaphragm. Again, before giving an unfavorable prognosis because of albuminuria and cylindruria, one must relieve a chronic constipation, since both may disappear with the establishment of normal fecal evacuations.

A New View of the Function of the Renal Glomerulus.—Brodie (*Jour. Can. Med. Assoc.*, 1911, i, 18) discusses a new view of the function of the renal glomerulus. On the assumption that the glomerulus discharges the bulk of the water and does actively secrete, he says that, since the abandonment of the filtration hypothesis, there has been no explanation of the function of this characteristic and peculiar structure. He feels that the glomerulus actively sets up a pressure head whereby the column of fluid is propelled along the tortuous tubule; for it seems reasonable to suppose that a considerable head is necessary to force fluid through the tubule, as it is a capillary tube. He observed the rate of flow from a dog's kidney in active diuresis; ligated the vessels; fixed the organ in formalin, and found out the number of glomeruli in each kidney, thus getting an idea of the rate of flow from each tubule. From the law of motion of fluid in a tube of that diameter he found the average glomerular pressure to be about 95 mm. Hg. All attempts to show that any renal cells can give an excretory pressure similar to that of the salivary glands failed, and consequently we must assume that the pressure just outside the glomerular tuft is the same as the renal capillary pressure. This renal capillary pressure is about 30 mm. Hg., less than arterial pressure, that is, 95, the same as found necessary to propel the fluid through the tubule. The popular view explains many facts brought to the support of that of filtration, that is, why the tuft has the firm unelastic Bowman's capsule and why the afferent vessels are larger than the efferent. This arrangement permits of a rapid enlargement of the glomerulus without loss of pressure. Nussbaum has described a pulsation of the glomerulus in the newt, and the tubules in active diuresis have been found increased in length. Both of these conditions are due to increased glomerular pressure. Furthermore, it has been found that the urinary secretion ceases at a pressure of about 30 to 40 mm. Hg, lower than the arterial pressure, that is, when the urinary pressure equals that in the glomerulus. Caffeine diuresis has been ascribed to the vessles alone, but proof is now at hand that caffeine products exercise a marked influence on the renal cells, and that under their influence the cells become incapable of holding back chlorine from the blood, after the chlorine content has fallen below normal. Then experiments on the frog's kidney where glomeruli and tubules have a distinct circulation leave no doubt that under caffeine diuresis, the tubules secrete, hence, in nephritis, great care should be taken in caffeine administration.

The Sensibility of the Alimentary Canal in Health and Disease.—Hertz (*Lancet*, 1911, clxxx, 1051), in the Goulstonian lectures, records his observations on the sensibility of the gastro-intestinal tract to various stimuli. The mucous membrane of the whole canal was found insensitive to tactile stimuli; that of the stomach and intestines alone was insensitive to thermal, the esophagus and rectum being sensitive.

The esophagus and stomach are quite insensible to dilute hydrochloric acid even as high as 5 per cent., a concentration never found in health or disease. Glycerin affects the anal canal, and alcohol generally produces a feeling of warmth. The feeling of fulness in stomach and intestines is due to a slow increase in the tension exerted on the muscular fibers of their coat. The volume of contents necessary to produce this tension varies with the tone of the organ, that is, a small quantity will cause a sensation of fulness in a tonically or organically contracted stomach, while it would be unnoticed in the dilated. In the rectum this special sensation of fulness is a "call to defecation." This call should be answered at once; for the passing off of the desire is not due to a return of the feces to the pelvic colon, but to a gradual relaxation of the rectal wall. A new desire means only one thing—that more feces have come to the rectum, and to prevent progressive dilatation it should be evacuated at once. The feeling of hunger is one of general malaise associated with the periodical muscular activity of the stomach when empty and the nerves hypersensitive. This causes local pressure symptoms analagous to those to be described in pain. Hunger can be allayed by the taking of water or of any non-digestible substance like earth. It is, however, with especial reference to abdominal pain that his observations are most interesting. He has described how he found the stomach insensitive to hydrochloric acid, even when ulcerated, and believes that abdominal pain is, in part, truly visceral and has one cause—tension produced upon the muscular coat of the viscus. This tension must be induced rapidly; if slowly the sensation of fulness results, and the pain returns when more pressure is added. Gastric pain associated with ulcer he describes as due to the pressure caused by (1) pyloric spasm either organic or due to the passage of too acid chyme into the duodenum, together with (2) increased peristalsis of the pyloric end of the stomach. This rapidly raises pressure locally, and the pain is severe. The peristalsis may be more active from direct stimulation of the nerves of the open ulcer, or it may be due to plain hyperacidity. If the ulcer is in the cardia, the peristalsis is evidently greatly increased, reaching a region of the stomach where it normally does not belong. The late pain of duodenal ulceration he explains by the fact that the first chyme to pass the pylorus has hydrochloric acid bound with the protein, and that there is no excess to cause pyloric spasm. As the secretion of hydrochloric acid rises, the spasm increases and peristalsis causes the rise in pressure. Relief by soda bicarbonate is explained by the reduction of acidity and consequently of the pyloric spasm, thus permitting extrusion of chyme. Similarly, vomiting results in emptying of the stomach with lack of pressure owing to their being nothing for the stomach to contract upon. The pain in chronic appendicitis and cholilithiasis is most probably due to reflex inhibition of the pyloric relaxation. That of colic is due to increase of pressure caused by excessive peristalsis and spasm of the next lowest colonic segment. Local tenderness may be due to two things—hyperalgesia of the skin, subcutaneous tissues, and muscles, together with a local rise in tension, caused by the pressure of the hand. That it is not due to pressure on the ulcer is evident from the fact that exploratory laparotomies often show the ulcer to be remote from the tender spot.